

JUN 11 2018

P/w

Ship JUNE 20



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

003839

**D022-661-011**  
**Job Sheet 178771**



Part No: D022-661-011

Job Qty: 1 ea

Part Name: R22 Bearpaws



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/7/18

Job Tracking No:

Due Date: 6/20/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV A1 IPP Rev:C 04.02.19 Added tolerance and ref to DSK086-12 to Step 3 KJ/JLM

Ship Via:

JUN 12 2018

## Bill of Materials

## Job Routing

| Op No | Operation          | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           |
|-------|--------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|
|       |                    |       |            |          | Setup hrs | Run Hrs | Workcenter / Supplier | Lead Time |
| 90    | Start up Operation | 1 Ea  | 6/20/18    | 6/20/18  | 0.00      | 0.00    | Start Up Container    |           |
| 100   | Packaging          | 1 pcs | 6/20/18    | 6/20/18  | 0.00      | 0.00    | Packaging1-6          |           |
| 110   | QC                 | 1 pcs | 6/20/18    | 6/20/18  | 0.00      | 0.00    | QC4                   |           |
| 115   | DC                 | 1 pcs | 6/20/18    | 6/20/18  | 0.00      | 0.00    | DC                    |           |
| 120   | Packaging          | 1 pcs | 6/20/18    | 6/20/18  | 0.00      | 0.00    | Packaging3-           |           |
| 130   | QC21-FG            | 1 Ea  | 6/20/18    | 6/20/18  | 0.00      | 0.00    | QC21                  |           |

Part Op 110 - QC4- 100% Inspect kits for completeness

Descriptions: 115 - Photocopy bluefile &amp; type labels per PPPD022-661-011 CHG002

120 - Identify and pack for shipping as per PPP D022-661-011 Location: F9013

130 - QC21- Final Inspection - Work Order Release

JUN 13 2018

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JUN 13 2018

JUN 13 2018

JUN 13 2018

JUN 13 2018

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JUN 13 2018

## Job BOM

| Part / Item | Component Name                      | Quantity           | Operation             | Container |
|-------------|-------------------------------------|--------------------|-----------------------|-----------|
| AN4-13A     | Bolt                                | 8 Ea (8 ea)        | 90-Start up Operation | 5062374   |
| AN960JD416  | Washer                              | 8 Ea (8 ea)        | 90-Start up Operation | 5055952   |
| D2182B028   | Rubber Cushion - Black (\$Per Foot) | .9300 ft (.93" ea) | 90-Start up Operation | 5160959   |
| D2274       | Radius Block                        | 8 Ea (8 ea)        | 90-Start up Operation | 5067925   |
| D2529       | Washer                              | 8 Ea (8 ea)        | 90-Start up Operation | 5035698   |
| D2870       | Clamp                               | 2 Ea (2 ea)        | 90-Start up Operation | 5080603   |
| D2871       | Clamp                               | 2 Ea (2 ea)        | 90-Start up Operation | 5080606   |
| D3076-1     | R22 Bearpaw                         | 2 Ea (2 ea)        | 90-Start up Operation | 5012432   |
| MS21042L4   | Nut                                 | 8 Ea (8 ea)        | 90-Start up Operation | 5078254   |

## Job Allocations

| Operation             | Component Part | Required | Inventory | Allocated |
|-----------------------|----------------|----------|-----------|-----------|
| 90-Start up Operation | AN4-13A        | 8        | 1,218     | 0         |
|                       | AN960JD416     | 8        | 0         | 0         |
|                       | D2182B         | 1        | 4,534     | 0         |
|                       | D2274          | 8        | 275       | 0         |
|                       | D2529          | 8        | 1,897     | 0         |
|                       | D2870          | 2        | 0         | 0         |
|                       | D2871          | 2        | 0         | 0         |
|                       | D3076-1        | 2        | 2         | 0         |
|                       | MS21042L4      | 8        | 3,141     | 0         |

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



# WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                          |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
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| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Step #: _____                                                                                                                                                                      | QTY Effective : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          | MRB (QSI042) Approval |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Disposition              |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| <div style="position: relative;"> <div style="position: absolute; top: 10%; left: 10%; transform: rotate(-45deg); font-size: 0.8em;">           Dart Aerospace Ltd.<br/>           1270 Aberdeen Street<br/>           Hwylsbury, ON K6A 1K7<br/>           CANADA<br/>           TEL: 1 813 632-5200<br/>           Email: sales@dartaero.com<br/>           www.dartaerospace.com         </div> <div style="position: absolute; top: 40%; left: 20%;"> <div style="text-align: center;"> <b>DART</b><br/>           AEROSPACE<br/>           Container No: S080627<br/>           Part: D022-661-011<br/>           Job No: 178771<br/>           Serial No/Batch: S080627<br/>           Revision:<br/>           Inspector:<br/>           Exp Date:<br/>           Instructions:         </div> </div> <div style="position: absolute; top: 50%; left: 40%;">           Date: 06/13/18         </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Completed By             |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Lead hand / Supervisor   |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Coordinator              |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Approval                 |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: left;">Root Cause</th> </tr> <tr> <td style="width:15%;">Environment</td> <td><input type="checkbox"/></td> <td style="width:15%;">No Re-verification</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Design</td> <td><input type="checkbox"/></td> <td>Operator</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Doc/Data</td> <td><input type="checkbox"/></td> <td>Offset/Setup</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Equip/Tooling</td> <td><input type="checkbox"/></td> <td>Supplier</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Handling/Pre</td> <td><input type="checkbox"/></td> <td>Training</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Material</td> <td><input type="checkbox"/></td> <td>Use for Testing</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Internal Transport</td> <td><input type="checkbox"/></td> <td>Poor Information</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Tribal Knowledge</td> <td><input type="checkbox"/></td> <td>Rushing</td> <td><input type="checkbox"/></td> </tr> <tr> <td>LOA</td> <td><input type="checkbox"/></td> <td>Product Improvement</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Substation</td> <td><input type="checkbox"/></td> <td>Process Improvement</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Past Expiry Date</td> <td><input type="checkbox"/></td> <td>Manufacturing Process</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Misidentified</td> <td><input type="checkbox"/></td> <td>Past Due</td> <td><input type="checkbox"/></td> </tr> <tr> <td colspan="4" style="text-align: center;">OTHER : _____</td> </tr> </table> |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                          |                       |  | Root Cause |  |  |  | Environment | <input type="checkbox"/> | No Re-verification | <input type="checkbox"/> | Design | <input type="checkbox"/> | Operator | <input type="checkbox"/> | Doc/Data | <input type="checkbox"/> | Offset/Setup | <input type="checkbox"/> | Equip/Tooling | <input type="checkbox"/> | Supplier | <input type="checkbox"/> | Handling/Pre | <input type="checkbox"/> | Training | <input type="checkbox"/> | Material | <input type="checkbox"/> | Use for Testing | <input type="checkbox"/> | Internal Transport | <input type="checkbox"/> | Poor Information | <input type="checkbox"/> | Tribal Knowledge | <input type="checkbox"/> | Rushing | <input type="checkbox"/> | LOA | <input type="checkbox"/> | Product Improvement | <input type="checkbox"/> | Substation | <input type="checkbox"/> | Process Improvement | <input type="checkbox"/> | Past Expiry Date | <input type="checkbox"/> | Manufacturing Process | <input type="checkbox"/> | Misidentified | <input type="checkbox"/> | Past Due | <input type="checkbox"/> | OTHER : _____ |  |  |  |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                          |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/>                                                                                                                                                           | No Re-verification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Design                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/>                                                                                                                                                           | Operator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Doc/Data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                                                                                           | Offset/Setup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Equip/Tooling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/>                                                                                                                                                           | Supplier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Handling/Pre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/>                                                                                                                                                           | Training                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                                                                                           | Use for Testing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Internal Transport                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/>                                                                                                                                                           | Poor Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Tribal Knowledge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>                                                                                                                                                           | Rushing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| LOA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>                                                                                                                                                           | Product Improvement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Substation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/>                                                                                                                                                           | Process Improvement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Past Expiry Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>                                                                                                                                                           | Manufacturing Process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| Misidentified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/>                                                                                                                                                           | Past Due                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |
| OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                          |                       |  |            |  |  |  |             |                          |                    |                          |        |                          |          |                          |          |                          |              |                          |               |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                    |                          |                  |                          |                  |                          |         |                          |     |                          |                     |                          |            |                          |                     |                          |                  |                          |                       |                          |               |                          |          |                          |               |  |  |  |

**Part Specifications**

Specifications could not be found.

Plex 6/7/18 11:40 AM dart.lajeunesse.marie



DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

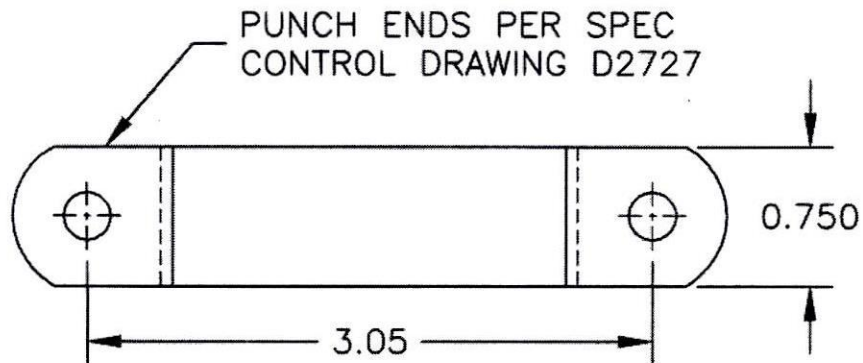
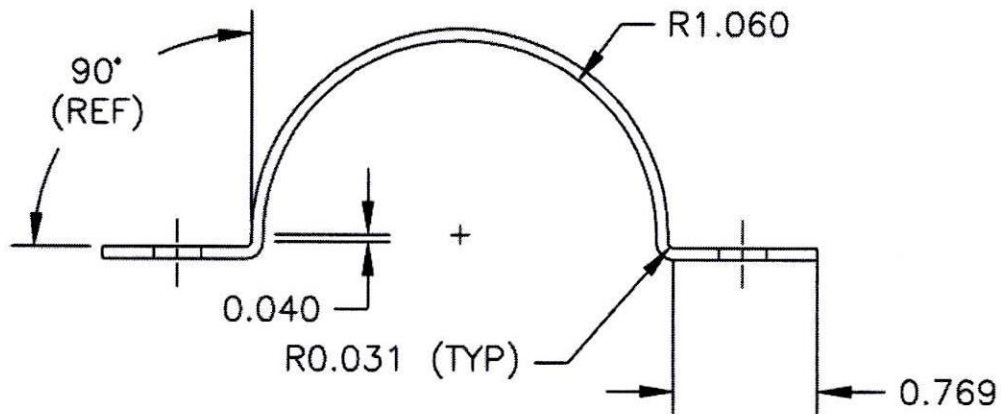
Work Order update only ☐

|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                                           |  |  |
|--------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |                                                | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                                            | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div> |                                               |  |                                                                                                                                                                           |  |  |
| Date :                                                       |                                                | Step #:                                                                                                                                                                            |                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  | <b>MRB (QSI042) Approval</b><br><br><br><b>Completed By</b><br><br><br><b>Lead hand / Supervisor Approval Verification</b><br><br><br><b>QC / QA Coordinator Approval</b> |  |  |
| <b>Description Work Order Deviation</b>                      |                                                |                                                                                                                                                                                    |                                                            | <b>Disposition</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                               |  |                                                                                                                                                                           |  |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                                           |  |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                                           |  |  |
| <b>Root Cause</b>                                            |                                                | <b>FAULT CATEGORY</b>                                                                                                                                                              |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                                           |  |  |
| Environment <input type="checkbox"/>                         | No Re-verification <input type="checkbox"/>    | Pressure/Forced <input type="checkbox"/>                                                                                                                                           | Temperature/Cure <input type="checkbox"/>                  | Power Loss/Surge <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Positioned Wrong <input type="checkbox"/>     |  |                                                                                                                                                                           |  |  |
| Design <input type="checkbox"/>                              | Operator <input type="checkbox"/>              | Bending <input type="checkbox"/>                                                                                                                                                   | Set-up <input type="checkbox"/>                            | Folio/Program <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Outside Dimensions <input type="checkbox"/>   |  |                                                                                                                                                                           |  |  |
| Doc/Data <input type="checkbox"/>                            | Offset/Setup <input type="checkbox"/>          | Centre Not Concentric <input type="checkbox"/>                                                                                                                                     | BOM/Route <input type="checkbox"/>                         | Grain <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Over/Under tolerance <input type="checkbox"/> |  |                                                                                                                                                                           |  |  |
| Equip/Tooling <input type="checkbox"/>                       | Supplier <input type="checkbox"/>              | Cracks <input type="checkbox"/>                                                                                                                                                    | Broken/Damage/Defect <input type="checkbox"/>              | Weld <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Part Incorrect <input type="checkbox"/>       |  |                                                                                                                                                                           |  |  |
| Handling/Pre <input type="checkbox"/>                        | Training <input type="checkbox"/>              | Crimp/Kink/Ripple/Wave <input type="checkbox"/>                                                                                                                                    | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Part Lost/Missing <input type="checkbox"/>    |  |                                                                                                                                                                           |  |  |
| Material <input type="checkbox"/>                            | Use for Testing <input type="checkbox"/>       | Cuffs <input type="checkbox"/>                                                                                                                                                     | Contamination <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Part Moved <input type="checkbox"/>           |  |                                                                                                                                                                           |  |  |
| Internal Transport <input type="checkbox"/>                  | Poor Information <input type="checkbox"/>      | Crushing <input type="checkbox"/>                                                                                                                                                  | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Drawing <input type="checkbox"/>              |  |                                                                                                                                                                           |  |  |
| Tribal Knowledge <input type="checkbox"/>                    | Rushing <input type="checkbox"/>               | Heat Treat <input type="checkbox"/>                                                                                                                                                | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Finish <input type="checkbox"/>               |  |                                                                                                                                                                           |  |  |
| LOA <input type="checkbox"/>                                 | Product Improvement <input type="checkbox"/>   | Wave/Twist in Tube <input type="checkbox"/>                                                                                                                                        | Instructions Incomplete/Unclear <input type="checkbox"/>   | Fit/Function <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Misread <input type="checkbox"/>              |  |                                                                                                                                                                           |  |  |
| Substation <input type="checkbox"/>                          | Process Improvement <input type="checkbox"/>   | Marks/Chatter <input type="checkbox"/>                                                                                                                                             | Drill Holes <input type="checkbox"/>                       | Misaligned/off center <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Turning Sequence <input type="checkbox"/>     |  |                                                                                                                                                                           |  |  |
| Past Expiry Date <input type="checkbox"/>                    | Manufacturing Process <input type="checkbox"/> | <b>OTHER :</b>                                                                                                                                                                     |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                                           |  |  |
| Misidentified <input type="checkbox"/>                       | Past Due <input type="checkbox"/>              |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                                                                                                                                                                           |  |  |



|                      |                       |                                                   |                        |
|----------------------|-----------------------|---------------------------------------------------|------------------------|
| DESIGN<br><i>KE</i>  | DRAWN BY<br><i>KE</i> | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED<br><i>CP</i> | APPROVED<br><i>CP</i> | DRAWING NO.<br>D2870                              | REV. A<br>SHEET 1 OF 1 |
| DATE<br>99.03.18     |                       | TITLE<br>CLAMP                                    | SCALE<br>1:1           |
| A                    | 99.03.18              | NEW ISSUE                                         |                        |

RELEASED  
99.04.14 KE



FLAT LENGTH: 5.233 END-END  
4.433 HOLE-HOLE

MATERIAL: AISI 304/316 SS 0.75 WIDE x 0.063 THICK  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

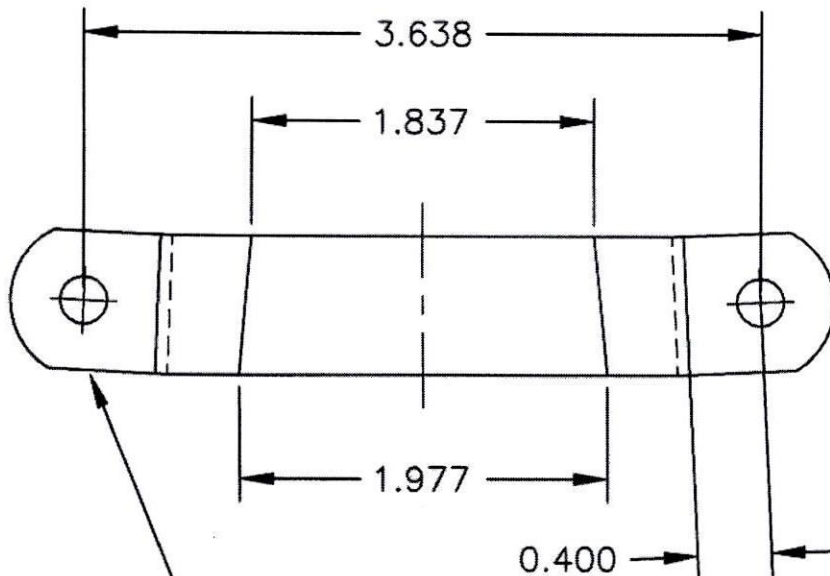
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                     |  |
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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                                     |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Step #:                                                                                                                                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                    | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                                                                                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                     |  |
| <b>Root Cause</b><br><div style="display: flex;"> <div style="flex: 1;">           Environment <input type="checkbox"/><br/>           Design <input type="checkbox"/><br/>           Doc/Data <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Pre <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Internal Transport <input type="checkbox"/><br/>           Tribal Knowledge <input type="checkbox"/><br/>           LOA <input type="checkbox"/><br/>           Substation <input type="checkbox"/><br/>           Past Expiry Date <input type="checkbox"/><br/>           Misidentified <input type="checkbox"/> </div> <div style="flex: 1;">           No Re-verification <input type="checkbox"/><br/>           Operator <input type="checkbox"/><br/>           Offset/Setup <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Training <input type="checkbox"/><br/>           Use for Testing <input type="checkbox"/><br/>           Poor Information <input type="checkbox"/><br/>           Rushing <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Past Due <input type="checkbox"/> </div> </div> |                                                                                                                                                                                    | <b>FAULT CATEGORY</b><br><div style="display: flex;"> <div style="flex: 1;">           Pressure/Forced <input type="checkbox"/><br/>           Bending <input type="checkbox"/><br/>           Centre Not Concentric <input type="checkbox"/><br/>           Cracks <input type="checkbox"/><br/>           Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>           Cuffs <input type="checkbox"/><br/>           Crushing <input type="checkbox"/><br/>           Heat Treat <input type="checkbox"/><br/>           Wave/Twist in Tube <input type="checkbox"/><br/>           Marks/Chatter <input type="checkbox"/> </div> <div style="flex: 1;">           Temperature/Cure <input type="checkbox"/><br/>           Set-up <input type="checkbox"/><br/>           BOM/Route <input type="checkbox"/><br/>           Broken/Damage/Defect <input type="checkbox"/><br/>           Inspection Incomplete/Unqualified <input type="checkbox"/><br/>           Contamination <input type="checkbox"/><br/>           Countersink <input type="checkbox"/><br/>           Cut Too Short <input type="checkbox"/><br/>           Instructions Incomplete/Unclear <input type="checkbox"/><br/>           Drill Holes <input type="checkbox"/> </div> <div style="flex: 1;">           Power Loss/Surge <input type="checkbox"/><br/>           Folio/Program <input type="checkbox"/><br/>           Grain <input type="checkbox"/><br/>           Weld <input type="checkbox"/><br/>           Wrong Stock Pulled <input type="checkbox"/><br/>           Out of Sequence <input type="checkbox"/><br/>           Off-set <input type="checkbox"/><br/>           Misabeled <input type="checkbox"/><br/>           Fit/Function <input type="checkbox"/><br/>           Misaligned/off center <input type="checkbox"/> </div> <div style="flex: 1;">           Positioned Wrong <input type="checkbox"/><br/>           Outside Dimensions <input type="checkbox"/><br/>           Over/Under tolerance <input type="checkbox"/><br/>           Part Incorrect <input type="checkbox"/><br/>           Part Lost/Missing <input type="checkbox"/><br/>           Part Moved <input type="checkbox"/><br/>           Drawing <input type="checkbox"/><br/>           Finish <input type="checkbox"/><br/>           Misread <input type="checkbox"/><br/>           Turning Sequence <input type="checkbox"/> </div> </div> |  |                                                                                                                                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    | OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                     |  |





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|----------------------|--------------------------------|---------------------------------------------------|------------------------|
| DESIGN<br><i>KE</i>  | DRAWN BY<br><i>KE</i>          | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED<br><i>CP</i> | APPROVED<br><i>[Signature]</i> | DRAWING NO.<br>D2871                              | REV. A<br>SHEET 1 OF 1 |
| DATE<br>99.03.18     |                                | TITLE<br>CLAMP                                    | SCALE<br>1:1           |
| A                    | 99.03.18                       | NEW ISSUE                                         |                        |
| A1                   | <del>RF</del> 02.01.18         | ADD FLAT LENGTH                                   |                        |

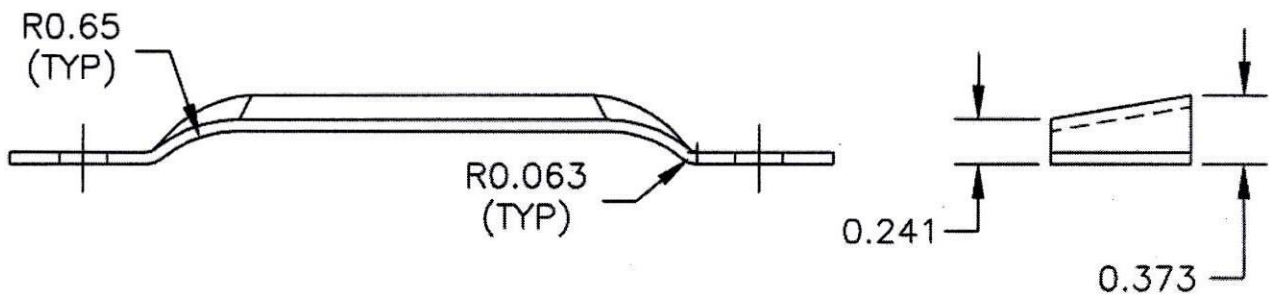
RELEASED  
99.04.14 *KE*



PUNCH ENDS PER SPEC  
CONTROL DRAWING D2727



FLAT LENGTH : 4.600 END-END  
3.800 HOLE-HOLE



MATERIAL: AISI 304/316 SS 0.75 WIDE x 0.063 THICK  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QSI042) Approval                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Completed By                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Lead hand / Supervisor<br>Approval Verification                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | QC / QA Coordinator<br>Approval                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Mislabeled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |



## Change Record

PAGE 1 OF 1

Part Number: D022-661-011

Description: BEARPAW INSTALLATION

[illegible]

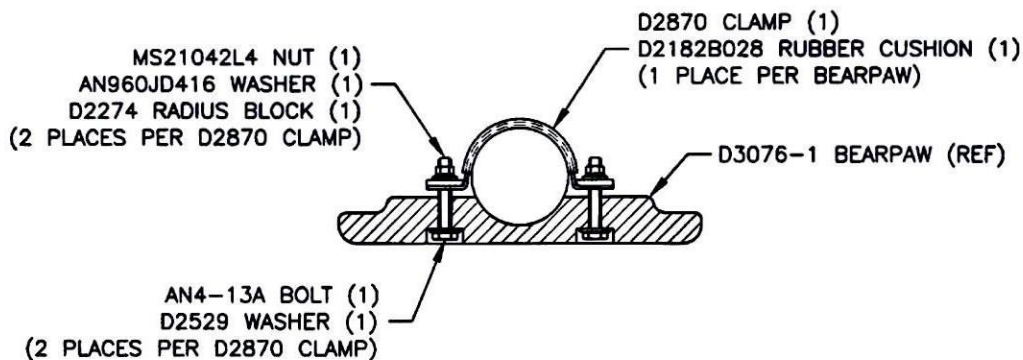


Figure 3 - Bearpaw Installation. Forward Clamp (section view)

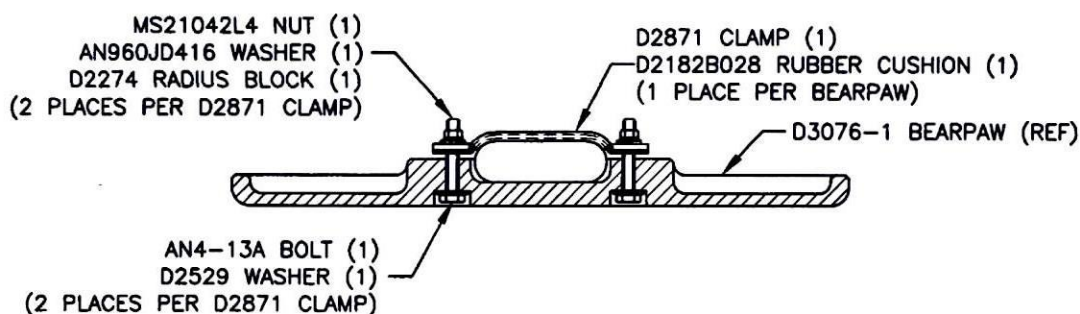


Figure 4 - Bearpaw Installation. Aft Clamp (section view)

#### 4. WEIGHT AND BALANCE

| Installation                                            | Weight            | LATERAL         |                       | LONGITUDINAL       |                          |
|---------------------------------------------------------|-------------------|-----------------|-----------------------|--------------------|--------------------------|
|                                                         |                   | Arm             | Moment                | Arm                | Moment                   |
| D022-661-011 Bearpaw Installation on model R22 aircraft | 4.6 lb<br>2.10 kg | 0.0 in<br>0.0 m | 0.0 lb-kg<br>0.0 m-kg | 121.1 in<br>3.08 m | 557.1 in-lb<br>6.47 m-kg |

#### 5. PARTS LIST

| Qty | Part Number  | Description          |
|-----|--------------|----------------------|
| X   | D022-661-011 | BEARPAW INSTALLATION |
| 4   | D2182B028    | Rubber Cushion       |
| 8   | D2274        | Radius Block         |
| 8   | D2529        | Washer               |
| 2   | D2870        | Clamp                |
| 2   | D2871        | Clamp                |
| 2   | D3076-1      | Bearpaw              |
| 8   | AN4-13A      | Bolt                 |
| 8   | AN960JD416   | Washers              |
| 8   | MS21042L4    | Nut (or MS21042-4)   |